



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,684	01/10/2001	Claude Morin	198928US0PCT	7294

22850 7590 06/13/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

THOMPSON, TIMOTHY J

ART UNIT PAPER NUMBER

2873

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/700,684

Applicant(s)

MORIN ET AL.

Examiner

Timothy J Thompson

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04/01/03.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 22-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-24, 27-33, 38, 39, 46, 47, 52, 55 and 56 is/are rejected.
- 7) ☒ Claim(s) 25, 26, 34-37, 40-45, 48-51, 53, 54, 57, 58 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 01 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 04/01/03 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 22-24, 27-33, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonar et al.(U.S. Patent Pub. No. 2002/0154379) in view of Ito et al.(U.S. Patent No. 4,874,229).**

Regarding claim 22, Tonar et al. discloses at least one carrier substrate(fig 7F, 112, 114) and a stack of functional layers(fig 7F, 130-184) having at least one electrically conducting layer having metal oxide(s)(fig 7F, 184), and a multicomponent electrode(fig 7F, 184-125) including at least one

Art Unit: 2873

electrochemically active layer(fig 7F, 184); at least one higher-conductivity material(fig 7F, 186) and the higher conductivity material having a surface resistance which is lower than the surface resistance of the electrically conducting layer[the higher conductivity layer obviously has a surface resistance which is lower than the surface resistance of the electrically conducting layer since the same materials are used, aluminium for the higher-conductivity layer(para 00183), and fluoride doped tin oxide(para 0183)]. Tonar does not disclose at least one network of conducting wires. However, Ito et al. discloses at least one network of conducting wires(fig 1, 13 and 14) of a diameter of 22um(col 3, line 10), stating that by apply voltage to the electrodes this provides a uniform voltage which exhibits a uniform and rapid coloring(col 3, lines 25-34). It would have been obvious to one skilled in the art, at the time of the invention, to form a network of conducting wires, with a diameter of 22um, as shown by Ito et al., in the optical device of Tonar, since as shown by Ito et al. a network of conducting wires, with a diameter of 22um, are commonly used in conjunction with electrodes, since a net work of conducting wires applies voltage to the electrodes that provides a uniform voltage which exhibits a uniform and rapid coloring.

Regarding claim 23, Tonar et al. discloses an electrically controllable system having variable optical properties or variable energy properties or both(abstract).

Regarding claim 24, Tonar et al. discloses higher-conductivity material comprises at least one layer combined with said electrically conducting layer and in electrical contact therewith(fig 7F, 184, 186),

Art Unit: 2873

Regarding claim 27, Tonar et al. discloses at least one electrically conducting layer comprises at least one doped metal oxide selected from the group of doped tin oxide, doped zinc oxide and doped indium oxide(para 0183, fluoride doped tin oxide).

Regarding claim 28, Tonar et al. discloses the doped tin oxide is fluorine doped or antimony doped(para 0183).

Regarding claim 29, Tonar et al. discloses the doped zinc oxide is fluorine doped((para 0079).

Regarding claim 30, Tonar et al. discloses the doped indium oxide is tin doped(para 0183).

Regarding claim 31, Tonar et al. discloses said higher-conductivity material is essentially metallic(para 0183, aluminium oxide).

Regarding claim 32, Tonar et al. discloses a higher-conductivity material comprises a metal selected from the group consisting of Ag, Au, Cu, Al, and alloys of thereof(para 0183, aluminium oxide).

Regarding claim 33, Tonar et al. discloses multicomponent electrode is essentially transparent in the visible region(para 0180).

Regarding claim 52, Tonar et al. discloses the stack of functional layers arranged between two substrates of glass type(fig 7F, 112, 114).

**Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonar et al.(U.S. Patent Pub. No. 2002/0154379) in view**

**of Ito et al.(U.S. Patent No. 4,874,229) as applied to claim 22 above, and further in view of Bunish et al.(U.S. Patent No. 3,800,065).**

Regarding claim 38, a modified Tonar, as detailed in claim rejection 22 above, does not specifically disclose the network of conducting wires is made from a metallic nonwoven material. However, Bunish et al. discloses conductors for transmitting current are made from a metallic nonwoven material(col 2, lines 5-9). It would have been obvious to one skilled in the art, at the time of the invention, to use a metallic nonwoven material for the net as shown by Bunish et al., in the optical device of a modified Tonar, since as shown by Bunish et al. a network made from a metallic nonwoven material is commonly used for conducting current.

Regarding claim 39, a modified Tonar, as detailed in claim rejection 22 above discloses the metallic wires having a diameter of from 10 to 100 um.

**Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonar et al.(U.S. Patent Pub. No. 2002/0154379) in view of Ito et al.(U.S. Patent No. 4,874,229), as applied to claim 22 above, and further in view of Maddison(U.S. patent No. 5,554,176).**

Regarding claims 46 and 47, a modified Tonar, as detailed in claim rejection 22 above, does not disclose current leads formed from metal shims. However, Maddison discloses current leads formed from metal shims(fig 4, 50). It would have been obvious to one skilled in the art, at the time of the invention, to form current leads formed from metal shims as shown by Ito et al., in the

optical device of Tonar, since as shown by Ito et al. current leads formed from metal shims is commonly used in conjunction with electrodes for connecting a power source to the electrodes.

**Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonar et al.(U.S. Patent Pub. No. 2002/0154379) in view of Ito et al.(U.S. Patent No. 4,874,229) as applied to claim 52 above, and further in view of Lynam(U.S. Patent No. 6,304,363).**

Regarding claims 55 and 56, a modified Tonar, as detailed in claim rejection 22 above, does not disclose a device uses a carrier substrate a) at least one rigid constituent substrate of a glazing or b) at least one flexible substrate combined by lamination with one rigid substrate or c) a combination of both. However, Lynam discloses a carrier substrate a) at least one rigid constituent substrate of a glazing or b) at least one flexible substrate combined by lamination with one rigid substrate or c) a combination of both(Col 7, lines 30-42) stating that the glazing assembly may employ an anti lacerative and ultraviolet reducing means(col 7, lines 30-33). It would have been obvious to one skilled in the art, at the time of the invention, to form a carrier substrate with a) at least one rigid constituent substrate of a glazing or b) at least one flexible substrate combined by lamination with one rigid substrate or c) a combination of both as shown by Lynam, in the optical device of Tonar, since as shown by Lynam a carrier substrate with a) at least one rigid constituent substrate of a glazing or b) at least one flexible substrate combined by lamination with one rigid substrate or c) a

combination of both. Is commonly used in electrochromic devices for both an ultraviolet reducing means and anti lacerative layer.

#### Allowable Subject Matter

Claims 25, 26, 34-37, 40-45, 48-51, 53, 54, 57, 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. With the important features being; the higher conductivity material is incorporated in the electrically conducting layer; or a network having a plurality of conducting strips obtained by screen printing using a paste-like suspension of a silver type metal and a low melting point frit in an organic binder; screen-printing a network onto a glass-type carrier substrate to obtain a screen - printed network; or network has a plurality of conducting wires in the form of essentially metallic wires surface-laid on a sheet comprising a thermoplastic polymer; or the network is obtained by etching or perforating a metallic layer or a metallic sheet; or wherein at least one of said at least one electrically conducting layer and said at least one layer comprising said higher-conductivity material are optionally in contact with at least one layer comprising a dielectric material; or comprising a dielectric material has an optical function, a function of anchoring said at least one layer comprising said higher-conductivity material to said carrier substrate or a function as ft barrier to a migration of alkaline species coming from said carrier substrate which is glass; or the material the dielectric is made from;



Art Unit: 2873

or said multi component electrode comprises a sequence ITO/Ag/ITO or Ag/ITO with optional interposition of at least one thin layer of partially oxidized metal at an Ag/ITO interface; or the the exact order of the functional layers.

### ***Response to Arguments***

Applicant's arguments with respect to claims 22 have been considered but are moot in view of the new ground(s) of rejection.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2873

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.

T.J.T.

6/10/03

A handwritten signature in black ink, appearing to read 'J. Schwartz', with a large, stylized loop at the end.

**JORDAN SCHWARTZ  
PRIMARY EXAMINER**